



Annex H Foresthill Fire Protection District

H.1 Introduction

This Annex details the hazard mitigation planning elements specific to Foresthill Fire Protection District (FFPD), a previously participating jurisdiction to the 2016 Placer County Local Hazard Mitigation Plan (LHMP) Update. This Annex is not intended to be a standalone document, but appends to and supplements the information contained in the Base Plan document. As such, all sections of the Base Plan, including the planning process and other procedural requirements apply to and were met by the District. This Annex provides additional information specific to FFPD, with a focus on providing additional details on the risk assessment and mitigation strategy for this District.

H.2 Planning Process

As described above, the District followed the planning process detailed in Chapter 3 of the Base Plan. In addition to providing representation on the Placer County Hazard Mitigation Planning Committee (HMPC), the District formulated their own internal planning team to support the broader planning process requirements. Internal planning participants, their positions, and how they participated in the planning process are shown in Table H-1. Additional details on plan participation and District representatives are included in Appendix A.

Table H-1 FFPD – Planning Team

Name	Position/Title	How Participated
Michael Ridley	Fire Chief	Provided data
Jed Matcham	Assistant Fire Chief	Reviewed data

Coordination with other community planning efforts is paramount to the successful implementation of this LHMP Update. This section provides information on how the District integrated the previously approved 2016 Plan into existing planning mechanisms and programs. Specifically, the District incorporated into or implemented the 2016 LHMP through other plans and programs shown in Table H-2.

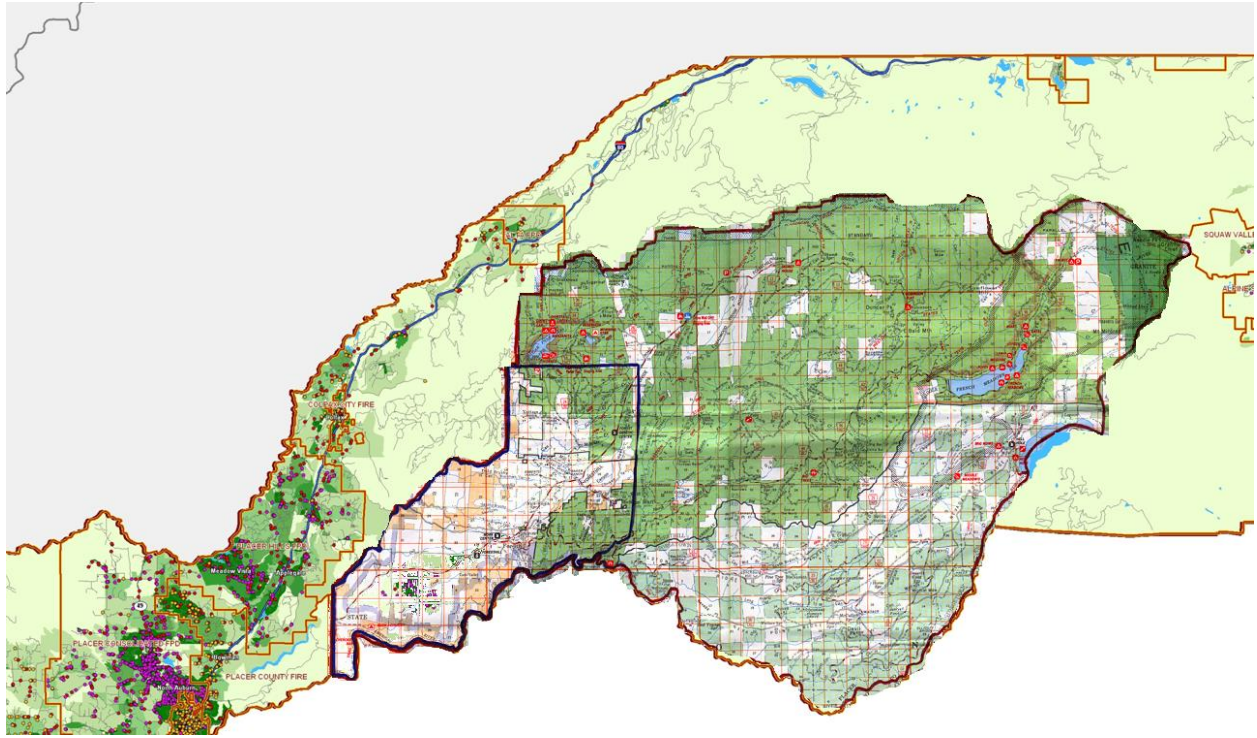
Table H-2 2016 LHMP Incorporation

Planning Mechanism 2016 LHMP Was Incorporated/Implemented In.	Details: How was it incorporated?
N/A	No planning related to the LHMP was performed since 2016.

H.3 District Profile

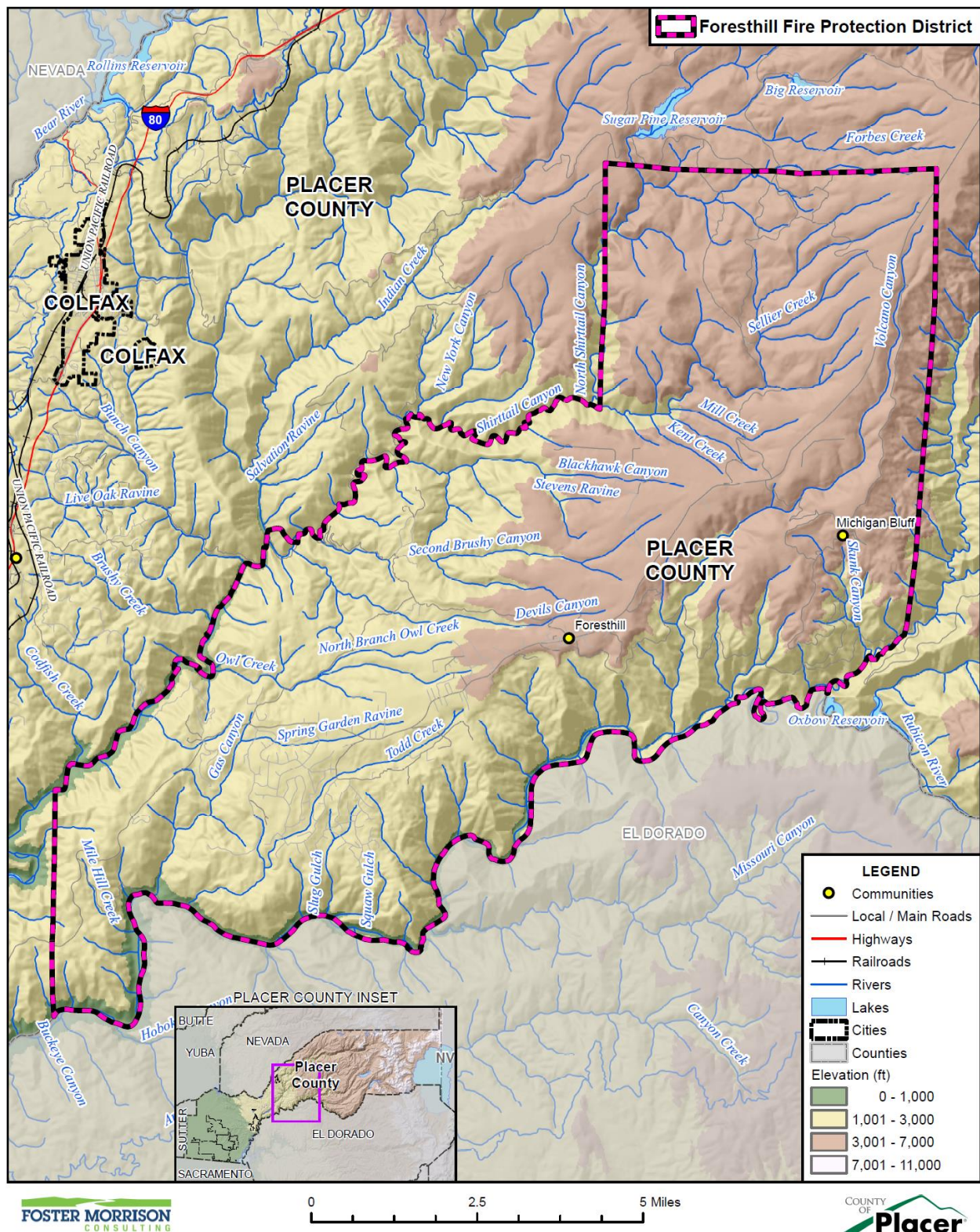
The District profile for the FFPD is detailed in the following sections. Figure H-1 and Figure H-2 display maps and the location of the District within Placer County.

Figure H-1 FFPD



Source: FFPD

Figure H-2 FFPD



H.3.1. Overview and Background

The FFPD serves the greater Foresthill area including Todd Valley, Baker Ranch, Michigan Bluff, and Sugar Pine. The District provides local advanced life support to the community following the merge with Foresthill Ambulance Service. Fire stations located in Foresthill and Todd Valley respond to structure and wildland fires, vehicle accidents, and medical emergencies. The District is staffed by a combination of paid and volunteer firefighters, EMTs, and paramedics. The District was created in April of 1946, after over 15 years of service by the Foresthill Volunteer Fire Department.

Foresthill is located on a broad ridge between the North and Middle Forks of the American River. The Foresthill community covers approximately 11.2 square miles and is located at an elevation of 3,228 feet.

The community of Foresthill, California was founded in 1850 during the California Gold Rush when prospectors swarmed over the Sierra Nevada Mountain divide between the North and Middle Forks of the American River. After the gold played out, many Foresthill settlers turned to logging the tall trees that cover the divide and a dozen lumber mills were established in and around Foresthill. The harvesting of timber, just like gold, eventually became too costly to pursue and the mills were closed, causing many of the residents to seek employment “off the hill” in nearby Auburn and even Sacramento.

Foresthill, however, was not “down-and-out.” With the wonderful outdoor recreational opportunities of the Tahoe National Forest, beautiful lakes and snow covered mountains, and the improvement of Foresthill Road during the 1990s by the federal government, people seem to have rediscovered the Foresthill Divide. Land values are on the rise, beautiful new homes are springing up throughout the woods, and the new Foresthill High School makes K-12 education a unique mountain-top experience.

In the Foresthill area, wildland fire suppression is the primary responsibility of CDF and the USFS, with additional support provided through mutual aid. The District has primary responsibility for non-wildland fire incidents that include structure fires, vehicular fires, extreme weather events, mass casualty incidents, etc.

H.4 Hazard Identification

FFPD identified the hazards that affect the District and summarized their location, extent, frequency of occurrence, potential magnitude, and significance specific to District (see Table H-3).

Table H-3 FFPD—Hazard Identification Assessment

Hazard	Geographic Extent	Likelihood of Future Occurrences	Magnitude/Severity	Significance	Climate Change Influence
Agriculture Pests and Diseases	Limited	Unlikely	Negligible	Low	Medium
Avalanche	Limited	Unlikely	Limited	Low	Medium
Climate Change	Extensive	Likely	Catastrophic	High	–
Dam Failure	Limited	Unlikely	Negligible	Low	Medium
Drought & Water Shortage	Extensive	Likely	Critical	High	High
Earthquake	Limited	Unlikely	Negligible	Low	Low
Floods: 1%/0.2% annual chance	Limited	Occasional	Negligible	Low	Medium
Floods: Localized Stormwater	Extensive	Highly Likely	Low	Medium	Medium
Landslides, Mudslides, and Debris Flows	Limited	Unlikely	Negligible	Low	Medium
Levee Failure	Limited	Unlikely	Negligible	Low	Medium
Pandemic	Extensive	Likely	Limited	Medium	Medium
Seiche	Limited	Unlikely	Negligible	Low	Medium
Severe Weather: Extreme Heat	Extensive	Highly Likely	Limited	Medium	High
Severe Weather: Freeze and Snow	Extensive	Highly Likely	Limited	Medium	Medium
Severe Weather: Heavy Rains and Storms	Extensive	Highly Likely	Negligible	Low	Medium
Severe Weather: High Winds and Tornadoes	Extensive	Highly Likely	Limited	High	Low
Tree Mortality	Extensive	Highly Likely	Catastrophic	High	High
Wildfire	Extensive	Highly Likely	Catastrophic	High	High
<p>Geographic Extent Limited: Less than 10% of planning area Significant: 10-50% of planning area Extensive: 50-100% of planning area</p> <p>Likelihood of Future Occurrences Highly Likely: Near 100% chance of occurrence in next year, or happens every year. Likely: Between 10 and 100% chance of occurrence in next year, or has a recurrence interval of 10 years or less. Occasional: Between 1 and 10% chance of occurrence in the next year, or has a recurrence interval of 11 to 100 years. Unlikely: Less than 1% chance of occurrence in next 100 years, or has a recurrence interval of greater than every 100 years.</p> <p>Magnitude/Severity Catastrophic—More than 50 percent of property severely damaged; shutdown of facilities for more than 30 days; and/or multiple deaths Critical—25-50 percent of property severely damaged; shutdown of facilities for at least two weeks; and/or injuries and/or illnesses result in permanent disability Limited—10-25 percent of property severely damaged; shutdown of facilities for more than a week; and/or injuries/illnesses treatable do not result in permanent disability Negligible—Less than 10 percent of property severely damaged, shutdown of facilities and services for less than 24 hours; and/or injuries/illnesses treatable with first aid</p> <p>Significance Low: minimal potential impact Medium: moderate potential impact High: widespread potential impact</p> <p>Climate Change Influence Low: minimal potential impact Medium: moderate potential impact High: widespread potential impact</p>					

H.5 Hazard Profile and Vulnerability Assessment

The intent of this section is to profile the District's hazards and assess the District's vulnerability separate from that of the Placer County Planning Area as a whole, which has already been assessed in Section 4.3 Hazard Profiles and Vulnerability Assessment in the Base Plan. The hazard profiles in the Base Plan discuss overall impacts to the Placer County Planning Area and describes the hazard problem description, hazard location and extent, magnitude/severity, previous occurrences of hazard events and the likelihood of future occurrences. Hazard profile information specific to the District is included in this Annex. This vulnerability assessment analyzes the property and other assets at risk to hazards ranked of medium or high significance specific to the District. For more information about how hazards affect the County as a whole, see Chapter 4 Risk Assessment in the Base Plan.

H.5.1. Hazard Profiles

Each hazard vulnerability assessment in Section H.5.3, includes a hazard profile/problem description as to how each medium or high significant hazard (as shown in Table H-3) affects the District and includes information on past hazard occurrences and the likelihood of future hazard occurrence. The intent of this section is to provide jurisdictional specific information on hazards and further describes how the hazards and risks differ across the Placer County Planning Area.

H.5.2. Vulnerability Assessment and Assets at Risk

This section identifies the District's total assets at risk, including values at risk, populations at risk, critical facilities and infrastructure, natural resources, and historic and cultural resources. Growth and development trends are also presented for the District. This data is not hazard specific, but is representative of total assets at risk within the District.

Assets at Risk and Critical Facilities

This section considers the FFPD's assets at risk, with a focus on key District assets such as critical facilities, infrastructure, and other District assets and their values. With respect to District assets, the majority of these assets are considered critical facilities as defined for this Plan. Critical facilities are defined for this Plan as:

Any facility, including without limitation, a structure, infrastructure, property, equipment or service, that if adversely affected during a hazard event may result in severe consequences to public health and safety or interrupt essential services and operations for the community at any time before, during and after the hazard event.

This definition is further refined by separating out three classes of critical facilities:

Class 1 facilities include those facilities that contribute to command, control, communications and computer capabilities associated with managing an incident from initial response through recovery.

Class 2 facilities include those facilities that house Emergency Services capabilities.

Class 3 facilities are those facilities that enable key utilities and can be used as evacuation centers/shelters/mass prophylaxis sites, etc.

Additional information on the three classes of critical facilities are described further in Section 4.3.1 of the Base Plan.

Table H-4 lists critical facilities and other District assets identified by the District Planning Team as important to protect in the event of a disaster. FFPD's physical assets, valued at over \$14 million, consist of the buildings and infrastructure to support the District's operations.

Table H-4 FFPD Critical Facilities, Infrastructure, and Other District Assets

Name of Asset	Facility Type	Replacement Value	Which Hazards Pose Risk
Station 88	Essential	\$5,500,000	Wildfire, earthquake
District Administration Building	Essential	\$2,500,000	Wildfire
Station 90	Essential	\$4,500,000	Wildfire
Station 89	Essential	\$1,000,000	Wildfire
Porter Garage	Essential	\$500,000	Wildfire, earthquake
Total		\$14,000,000	

Source: FFPD

Populations Served

Also potentially at risk should the District be affected by natural hazard events are the populations served by the District. FFPD provides services to a population of over 7,000 people in an 89 square mile area. The median age of residents is 51.5 years old. 59% of the population is between the ages of 18 and 64 years old. The District has approximately 2,900 housing units. 99.3% of our population live and work in a Tier 3 Fire Hazard Severity Zone.

Natural Resources

FFPD has a variety of natural resources of value to the District. These natural resources parallels that of Placer County as a whole. Information can be found in Section 4.3.1 of the Base Plan.

Historic and Cultural Resources

FFPD has a variety of historic and cultural resources of value to the District. These historic and cultural resources parallels that of Placer County as a whole. Information can be found in Section 4.3.1 of the Base Plan.

Growth and Development Trends

Foresthill Divide is located between the Middle Fork and North Fork of the American River. With the views in the area, developers are planning subdivisions on the canyon rims directly adjacent to unmaintained Bureau of Reclamation lands.

According to the 2007 Capital Improvement Plan for the District, the 2007 service population was estimated at 7,300. Using the plan's 3 percent assumed growth rate, new development is anticipated to increase the service population between 2007 and 2030 by 7,100 for a total service population of 14,300 by year 2030. The plan indicates that an estimated \$12.6 million in capital improvements will be necessary by 2030 to meet the growing demands of the District's service area. This is beyond the capabilities of the Fire District to complete. This should be a Placer County issue to address.

As Foresthill area grows there will be further demand for emergency services, more vehicle accidents, and more fires. The development of the commercial property will also bring with it, an increase in use and storage of hazardous chemicals and associated environmental concerns.

It is important to note that there are several elderly, disabled, and low income people in the Foresthill area. In the case of a wildfire evacuation, these people may not have transportation. Likewise, in the event of a power outage during the winter months, these special populations may not be able to get to a shelter for warmth.

Development since 2016

There has been minor development since 2016, but the development has had little impact on the vulnerability of the District. No District facilities have been constructed since 2016. District Administration building has been upgraded and a Department Operation Center (DOC) has been developed. The District noted that its stations are too small to provide proper apparatus and equipment storage.

Future Development

The District has no direct control over future development in areas the District services. Future development in these areas parallels that of the Placer County Planning Area. District facilities need to be expanded and the stations need to be rebuilt to fit the expanding role of the Fire District. However, there are no funds available for these critical needs. More general information on growth and development in Placer County as a whole can be found in "Growth and Development Trends" in Section 4.3.1 Placer County Vulnerability and Assets at Risk of the Base Plan.

H.5.3. Vulnerability to Specific Hazards

This section provides the vulnerability assessment, including any quantifiable loss estimates, for those hazards identified above in Table H-3 as high or medium significance hazards. Impacts of past events and vulnerability of the District to specific hazards are further discussed below (see Section 4.1 Hazard Identification in the Base Plan for more detailed information about these hazards and their impacts on the Placer County Planning Area). Methodologies for evaluating vulnerabilities and calculating loss estimates are the same as those described in Section 4.3 of the Base Plan.

An estimate of the vulnerability of the District to each identified priority hazard, in addition to the estimate of likelihood of future occurrence, is provided in each of the hazard-specific sections that follow. Vulnerability is measured in general, qualitative terms and is a summary of the potential impact based on past occurrences, spatial extent, and damage and casualty potential. It is categorized into the following classifications:

- **Extremely Low**—The occurrence and potential cost of damage to life and property is very minimal to nonexistent.
- **Low**—Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal.
- **Medium**—Moderate potential impact. This ranking carries a moderate threat level to the general population and/or built environment. Here the potential damage is more isolated and less costly than a more widespread disaster.
- **High**—Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past.
- **Extremely High**—Very widespread with catastrophic impact.

Depending on the hazard and availability of data for analysis, this hazard specific vulnerability assessment also includes information on values at risk, critical facilities and infrastructure, populations at risk, and future development.

Climate Change

Likelihood of Future Occurrence—Likely
Vulnerability—High

Hazard Profile and Problem Description

Climate change adaptation is a key priority of the State of California. The 2018 State of California Multi-Hazard Mitigation Plan stated that climate change is already affecting California. Sea levels have risen by as much as seven inches along the California coast over the last century, increasing erosion and pressure on the state's infrastructure, water supplies, and natural resources. The State has also seen increased average temperatures, more extreme hot days, fewer cold nights, a lengthening of the growing season, shifts in the water cycle with less winter precipitation falling as snow, and earlier runoff of both snowmelt and rainwater in the year. In addition to changes in average temperatures, sea level, and precipitation patterns, the intensity of extreme weather events is also changing. The Fire District has seen an increase in the number of responses related to medical and fire emergencies due to the higher temperatures, low moisture levels and tree mortality and related to the lesser amounts of precipitation.

Location and Extent

Climate change is a global phenomenon. It is expected to affect the whole of the District, Placer County, and State of California. There is no scale to measure the extent of climate change. Climate change exacerbates other hazards, such as drought, extreme heat, flooding, wildfire, and others. The speed of onset of climate change is very slow. The duration of climate change is not yet known, but is feared to be tens to hundreds of years.

Past Occurrences

Climate change has never been directly linked to any declared disasters. While the District noted that climate change is of concern, no specific impacts of climate change could be recalled. The District and HMPC members did, however, note that in Placer County, the strength of storms does seem to be increasing and the temperatures seem to be getting hotter. Hotter temperatures, combined with recent drought conditions, exacerbates the potential for damaging wildfires. One significant snow event in the past year that resulted in The District responding to more than 28 calls in a 24-hour period. Normally, we average about 2 calls per day.

Vulnerability to and Impacts from Climate Change

The California Adaptation Planning Guide (APG) prepared by California OES and CNRA was developed to provide guidance and support for local governments and regional collaboratives to address the unavoidable consequences of climate change. California's APG: Understanding Regional Characteristics has divided California into 11 different regions based on political boundaries, projected climate impacts, existing environmental setting, socioeconomic factors and regional designations. Placer County falls within the North Sierra Region characterized as a sparsely settled mountainous region where the region's economy is primarily tourism-based. The region is rich in natural resources, biodiversity, and is the source for the majority of water used by the state. This information can be used to guide climate adaptation planning in the District and Placer County Planning Area.

The California APG: Understanding Regional Characteristics identified the following impacts specific to the North Sierra region in which the Placer County Planning Area is part of:

- Temperature increases
- Decreased precipitation
- Reduced snowpack
- Reduced tourism
- Ecosystem change
- Sensitive species stress
- Increased wildfire

The District noted that higher temperatures in the summer and the severe snowstorms in the winter attract more people to the Tahoe National Forest. The District provides Advanced Life Support response and transport services to the area. These services provided are not fully funded and have a significant impact on the District's budget.

Assets at Risk

The District noted that its facilities will most likely not be at risk from climate change.

Drought & Water Shortage

Likelihood of Future Occurrence—Likely
Vulnerability—High

Hazard Profile and Problem Description

Drought is a complex issue involving many factors—it occurs when a normal amount of precipitation and snow is not available to satisfy an area’s usual water-consuming activities. Drought can often be defined regionally based on its effects. Drought is different than many of the other natural hazards in that it is not a distinct event and usually has a slow onset. Drought can severely impact a region both physically and economically. Drought affects different sectors in different ways and with varying intensities. Adequate water is the most critical issue and is critical for agriculture, manufacturing, tourism, recreation, and commercial and domestic use. As the population in the area continues to grow, so will the demand for water.

Location and Extent

Drought and water shortage are regional phenomenon. The whole of the County, as well as the whole of the District, is at risk. The US Drought Monitor categorizes drought conditions with the following scale:

- None
- D0 – Abnormally dry
- D1 – Moderate Drought
- D2 – Severe Drought
- D3 – Extreme drought
- D4 – Exceptional drought

Drought has a slow speed of onset and a variable duration. Drought can last for a short period of time, which does not usually affect water shortages and for longer periods. Should a drought last for a long period of time, water shortage becomes a larger issue. Current drought conditions in the District and the County are shown in Section 4.3.10 of the Base Plan.

Past Occurrences

There has been one state and one federal disaster declaration due to drought since 1950. This can be seen in Table H-5.

Table H-5 Placer County – State and Federal Disaster Declarations Summary 1950-2020

Disaster Type	State Declarations		Federal Declarations	
	Count	Years	Count	Years
Drought	1	2014	1	1977

Source: Cal OES, FEMA

Since drought is a regional phenomenon, past occurrences of drought for the District are the same as those for the County and includes 5 multi-year droughts over an 85-year period. Details on past drought occurrences can be found in Section 4.3.10 of the Base Plan.

Vulnerability to and Impacts from Drought and Water Shortage

Based on historical information, the occurrence of drought in California, including the District, is cyclical, driven by weather patterns. Drought has occurred in the past and will occur in the future. Periods of actual drought with adverse impacts can vary in duration, and the period between droughts can be extended. Although an area may be under an extended dry period, determining when it becomes a drought is based on impacts to individual water users. Drought impacts are wide-reaching and may be economic, environmental, and/or societal. Tracking drought impacts can be difficult.

The most significant qualitative impacts associated with drought in the Placer County Planning Area are those related to water intensive activities such as agriculture, wildfire protection, municipal usage, commerce, tourism, recreation, and wildlife preservation. Mandatory conservation measures are typically implemented during extended droughts. Drought conditions can also cause soil to compact and not absorb water well, potentially making an area more susceptible to flooding. With a reduction in water, water supply issues based on water rights becomes more evident. Climate change may create additional impacts to drought and water shortage in the County and the District.

During periods of drought, vegetation can dry out which increases fire risk. Drought that occurs during periods of extreme heat and high winds can cause Public Safety Power Shutoff (PSPS) events to be declared in the County. More information on power shortage and failure can be found in the Severe Weather: Extreme Heat Section below, as well as in Section 4.3.2 of the Base Plan.

Assets at Risk

All of the District's critical infrastructure from Table H-4 is within a Tier 3 Fire Hazard Severity Zone. This results in the threat of wildfire destroying some or all of the infrastructure.

Flood: Localized Stormwater Flooding

Likelihood of Future Occurrence—Highly Likely

Vulnerability—Medium

Hazard Profile and Problem Description

Flooding occurs in areas other than the FEMA mapped 1% and 0.2% annual chance floodplains. Flooding may be from drainages not studied by FEMA, lack of or inadequate drainage infrastructure, or inadequate maintenance. Localized, stormwater flooding occurs throughout the County during the rainy season from November through April. Prolonged heavy rainfall contributes to a large volume of runoff resulting in high peak flows of moderate duration.

Location and Extent

The FFPD is subject to localized flooding throughout the District. Flood extents are usually measured in areas affected, velocity of flooding, and depths of flooding. Expected flood depths in the District vary by location. Flood durations in the District tend to be short to medium term, or until either the storm drainage system can catch up or flood waters move downstream. Localized flooding in the District tends to have a

shorter speed of onset, especially when antecedent rainfall has soaked the ground and reduced its capacity to absorb additional moisture.

The District tracks localized flooding areas. localized flood areas identified by the FFPD are summarized in Table H-6.

Table H-6 FFPD – List of Localized Flooding Problem Areas

Area Name	Flooding	Pavement Deterioration	Washout	High Water	Landslide/ Mudslide	Debris	Downed Trees
Foresthill Fire Protection District – Localized	X		X	X	X	X	X

Source: FFPD

Past Occurrences

There have been no federal or state disaster declarations in the County due to localized flooding. The District noted no major issues with flooding. However, the major storms drop trees, which take out the power lines causing major power outages. Small slides impact Foresthill Road and local roadways within the district.:

Vulnerability to and Impacts from Localized Flooding

Historically, much of the growth in the District and County has occurred adjacent to streams, resulting in significant damages to property, and losses from disruption of community activities when the streams overflow. Additional development in the watersheds of these streams affects both the frequency and duration of damaging floods through an increase in stormwater runoff.

Primary concerns associated with stormwater flooding include life safety issues, and impacts to property and to infrastructure that provides a means of ingress and egress throughout the community. Ground saturation can result in instability, collapse, or other damage to trees, structures, roadways and other critical infrastructure. Objects can also be buried or destroyed through sediment deposition. Floodwaters can break utility lines and interrupt services. Standing water can cause damage to crops, roads, and foundations. Other problems connected with flooding and stormwater runoff include erosion, sedimentation, degradation of water quality, losses of environmental resources, and certain health hazards.

The District's greatest concern is damage caused from trees falling and blocking of roadways from downed trees, localized flooding and slides.

Assets at Risk

All District buildings are in areas with trees that could fall, causing damage to the buildings.

Pandemic

Likelihood of Future Occurrence–Likely

Vulnerability–Medium

Hazard Profile and Problem Description

According to the World Health Organization (WHO), a disease epidemic occurs when there are more cases of that disease than normal. A pandemic is a worldwide epidemic of a disease. A pandemic may occur when a new virus appears against which the human population has no immunity.

A pandemic occurs when a new virus emerges for which people have little or no immunity, and for which there is no vaccine. This disease spreads easily person-to-person, causes serious illness, and can sweep across the country and around the world in a very short time. The U.S. Centers for Disease Control (CDC) and Prevention has been working closely with other countries and the WHO to strengthen systems to detect outbreaks of that might cause a pandemic and to assist with pandemic planning and preparation. An especially severe pandemic could lead to high levels of illness, death, social disruption, and economic loss.

Location and Extent

During a pandemic, the whole of the District, County, and surrounding region is at risk, as pandemic is a regional, national, and international event. The speed of onset of pandemic is usually short, while the duration is variable, but can last for more than a year as shown in the 1918/1919 Spanish Flu. There is no scientific scale to measure the magnitude of pandemic. Pandemics are usually measured in numbers affected by the pandemic, and by number who die from complications from the pandemic.

Past Occurrences

There has been one state and federal disaster declaration due to pandemic, as shown in Table H-7.

Table H-7 Placer County – State and Federal Pandemic Disaster Declarations 1950-2020

Disaster Type	Federal Declarations		State Declarations	
	Count	Years	Count	Years
Pandemic	1	2020	1	2020

Source: Cal OES, FEMA

The 20th century saw three outbreaks of pandemic flu.

- The 1918-1919 Influenza Pandemic (H1N1)
- The February 1957-1958 Influenza Pandemic (H2N2)
- The 1968 Influenza Pandemic (H3N2)

To date, the 21st century has seen two acknowledged pandemics.

- 2009 Swine Flu (H1N1)
- 2019/2020/2021 COVID 19

Vulnerability to and Impacts from Pandemic

Pandemics have and will continue to have impacts on human health in the region. A pandemic occurs when a new virus emerges for which there is little or no immunity in the human population; the virus causes serious illness and spreads easily from person-to-person worldwide. There are several strategies that public health officials can use to combat a pandemic. Constant surveillance regarding the current pandemic, use of infection control techniques, and administration of vaccines once they become available. Citizens can help prevent the spread of a pandemic by staying home, or “self-quarantining,” if they suspect they are infected. Pandemic does not affect the buildings, critical facilities, and infrastructure in the District. Pandemic can have varying levels of impact to the citizens of the District and greater County, depending on the nature of the pandemic.

Impacts could range from school and business closings to the interruption of basic services such as public transportation, health care, and the delivery of food and essential medicines. Hospitalizations and deaths can occur, especially to the elderly or those with pre-existing underlying conditions. As seen with Covid-19, multiple businesses were forced to close temporarily (some permanently) and unemployment rose significantly. Supply chains for food and essentials can be interrupted. Prisons may need to release prisoners to prevent significant outbreaks.

Line personnel exposed to the potential of COVID 19 on a majority of the incidents responded to. Cost of PPE, the logistics of obtaining supplies, inventory, and storage of supplies. The decontamination of personnel and equipment. Most of these expenses were completed without a set budget. We had to go out and secure a grant for supplies.

Assets at Risk

Pandemics do not affect District facilities, but can affect District personnel who operate District facilities.

Severe Weather: Extreme Heat

Likelihood of Future Occurrence–Highly Likely

Vulnerability–Medium

Hazard Profile and Problem Description

According to FEMA, extreme heat is defined as temperatures that hover 10 degrees or more above the average high temperature for the region and last for several weeks. Heat kills by taxing the human body beyond its abilities. In extreme heat and high humidity, evaporation is slowed, and the body must work extra hard to maintain a normal temperature.” Most heat disorders occur because the victim has been overexposed to heat or has over-exercised for his or her age and physical condition. Older adults, young children, and those who are sick or overweight are more likely to succumb to extreme heat.

In addition to the risks faced by citizens of the District, there are risks to the built environment from extreme heat. While extreme heat on its own does not usually affect structure, extreme heat during times of drought can cause wildfire risk to heighten. Extreme heat and high winds can cause power outages and PSPS events, causing issues to buildings in the District.

Extreme Heat and Power Shortage/Power Failure

The US power grid crisscrosses the country, bringing electricity to homes, offices, factories, warehouses, farms, traffic lights and even campgrounds. According to statistics gathered by the Department of Energy, major blackouts are on the upswing. Incredibly, over the past two decades, blackouts impacting at least 50,000 customers have increased 124 percent. The electric power industry does not have a universal agreement for classifying disruptions. Nevertheless, it is important to recognize that different types of outages are possible so that plans may be made to handle them effectively. In addition to blackouts, brownouts can occur. A brownout is an intentional or unintentional drop in voltage in an electrical power supply system. Intentional brownouts are used for load reduction in an emergency. Electric power disruptions can be generally grouped into two categories: intentional and unintentional. More information on types of power disruptions can be found in Section 4.3.2 of the Base Plan.

Public Safety Power Shutoff (PSPS)

A new intentional disruption type of power shortage/failure event has recently occurred in California. In recent years, several wildfires have started as a result of downed power lines or electrical equipment. This was the case for the Camp Fire in 2018. As a result, California's three largest energy companies (including PG&E), at the direction of the California Public Utilities Commission (CPUC), are coordinating to prepare all Californians for the threat of wildfires and power outages during times of extreme weather. To help protect customers and communities during extreme weather events, including periods of high winds, high temperatures, and low humidity, electric power may be shut off for public safety in an effort to prevent a wildfire. This is called a PSPS. More information on PSPS criteria can be found in Section 4.3.2 of the Base Plan.

Location and Extent

Heat is a regional phenomenon and affects the whole of the District. Heat emergencies are often slower to develop, taking several days of continuous, oppressive heat before a significant or quantifiable impact is seen. Heat waves do not strike victims immediately, but rather their cumulative effects slowly affect vulnerable populations and communities. Heat waves do not generally cause damage or elicit the immediate response of floods, fires, earthquakes, or other more "typical" disaster scenarios.

The NWS has in place a system to initiate alert procedures (advisories or warnings) when extreme heat is expected to have a significant impact on public safety. The expected severity of the heat determines whether advisories or warnings are issued. The NWS HeatRisk forecast provides a quick view of heat risk potential over the upcoming seven days. The heat risk is portrayed in a numeric (0-4) and color (green/yellow/orange/red/magenta) scale which is similar in approach to the Air Quality Index (AQI) or the UV Index. This can be seen in Section 4.3.2 of the Base Plan.

Past Occurrences

There has been no federal or state disaster declarations in the County for heat. The District Planning Team noted that since extreme heat is a regional phenomenon, events that affected the County also affected the District. Those past occurrences were shown in the Base Plan in Section 4.3.2.

The District noted that there have been numerous Power Safety Power Shutoffs (PSPS) in Foresthill. 8 times in the past year out of 9 events that occurred in the County. The District noted that future events are likely as high winds affect the power grid and the District is in a Tier 3 Fire Hazard Zone.

Vulnerability to and Impacts from Extreme Heat

The District experiences temperatures in excess of 100°F during the summer and fall months. The temperature moves to 105-110°F in rather extreme situations. During these times, drought conditions may worsen. Also, power outages and PSPS events may occur during these times as well, especially when combined with the potential for severe wind events. Health impacts, including loss of life, are often the primary concern with this hazard, though economic impacts can also be an issue.

Days of extreme heat have been known to result in medical emergencies, and unpredictable human behavior. Periods of extended heat and dryness (droughts) can have major economic, agricultural, and water resources impacts. Extreme heat can also dry out vegetations, making it more vulnerable to wildfire ignitions and spread.

The District does not have the ability to provide cooling centers to our populace. If the power is out our local schools, churches, etc. will not be able to provide shelter either. The extreme heat also results in medical responses that can require extended commitments of resources due to many incidents being remotely located out in the wilderness area. Extreme heat also plays a major factor in the ignitability of fuels, rapid spread of fire, and extent of fire damage when a fire occurs. This obviously requires the District to commit resources for longer periods of time, resulting in the inability to provide other emergency services to our jurisdiction.

Assets at Risk

No District assets (from Table H-4) are at risk from this hazard.

Severe Weather: Freeze and Snow

Likelihood of Future Occurrence—Highly Likely

Vulnerability—Medium

Hazard Profile and Problem Description

According to the NWS and the WRCC, winter snowstorms can include heavy snow, ice, and blizzard conditions. Heavy snow can immobilize a region, stranding commuters, stopping the flow of supplies, and disrupting emergency and medical services. Accumulations of snow can collapse roofs and knock down trees and power lines. In rural areas, homes and farms may be isolated for days, and unprotected livestock may be lost. The cost of snow removal, damage repair, and business losses can have a tremendous impact on cities and towns.

Heavy accumulations of ice can bring down trees, electrical wires, telephone poles and lines, and communication towers. Communications and power can be disrupted for days until the damage can be

repaired. Power outages can have a significant impact on communities, especially critical facilities such as public utilities. Even small accumulations of ice may cause extreme hazards to motorists and pedestrians.

Some winter storms are accompanied by strong winds, creating blizzard conditions with blinding wind-driven snow, severe drifting, and dangerous wind chills. Strong winds accompanying these intense storms and cold fronts can knock down trees, utility poles, and power lines. Blowing snow can reduce visibility to only a few feet in areas where there are no trees or buildings. Serious vehicle accidents with injuries and deaths can result. Freezing temperatures can cause significant damage to the agricultural industry.

Location and Extent

The District sits in the center of the County, in areas of varying topography. As such, discussions of location and extent for both the western and eastern portion of the County are presented below.

Freeze and snow are regional issues, meaning the entire District is at risk to cold weather and freeze events. While there is no scale (i.e. Richter, Enhanced Fujita) to measure the effects of freeze, the WRCC reports that in a typical year, minimum temperatures fall below 32°F on 22.6 days with 0 days falling below 0°F in western Placer County. Snowfall is measured in depths, and the WRCC reports that average snowfall on the western side of the County is 1.4 inches. Freeze and snow has a slow onset and can be generally be predicted in advance for the County. Freeze events can last for hours (in a cold overnight), or for days to weeks at a time. Snow event can last for hours or days, but is more unlikely in the western portion of the County. When it does snow, the snow often melts relatively quickly.

Freeze and snow are regional issues, meaning the entire District is at risk to cold weather and freeze events. While there is no scale (i.e. Richter, Enhanced Fujita) to measure the effects of freeze, the WRCC reports that in a typical year, minimum temperatures fall below 32°F on 209.0 days with 0.4 days falling below 0°F in eastern Placer County. Snowfall is measured in depths, and the WRCC reports that average snowfall on the eastern side of the County is 190.7 inches. Freeze and snow has a slow onset and can be generally be predicted in advance for the County. Freeze events can last for hours (in a cold overnight), or for days to weeks at a time. Snow event can last for hours or days, and the snow stays all winter in the eastern portion of the County, often with significant snow depths.

Past Occurrences

There has been no federal and one state disaster declarations in the County for freeze and snow, as shown on Table H-8.

Table H-8 Placer County – State and Federal Disaster Declarations from Freeze and Snow 1950-2020

Disaster Type	State Declarations		Federal Declarations	
	Count	Years	Count	Years
Freeze	1	1972	0	–

Source: Cal OES, FEMA

The District noted that cold and freeze is a regional phenomenon; events that affected the County also affected the District. Those past occurrences were shown in the Base Plan in Section 4.3.3. Severe freezes, snow, and winter weather result in many impacts to the district. Snow accumulation can be up to multiple feet of snow in a short period of time, especially in the eastern part of our district. With the district at an elevation that does not regularly get large accumulations of snow, this can result in serious impact to the district in the way of responses to high volumes of calls related to the weather. This also makes access to many parts of our district difficult, if not impossible at times.

Vulnerability to and Impacts from Severe Weather: Freeze and Snow

The District experiences temperatures below 32 degrees during the winter months. Freeze can cause injury or loss of life to residents of the District. While it is rare for buildings to be affected directly by freeze, damages to pipes that feed building can be damaged during periods of extreme cold. Freeze and snow can occasionally be accompanied by high winds, which can cause downed trees and power lines, power outages, accidents, and road closures. Transportation networks, communications, and utilities infrastructure are the most vulnerable physical assets to impacts of severe winter weather in the County. During extreme winter events, response times to emergencies may be extended. Road access, power grid failure, non-ambulatory populace not able to provide for themselves, trees falling on structures, powerlines, and roadways. The closing of Foresthill Road would eliminate the ability to transport patients for medical care, and it is the only viable route for evacuation from the District.

Assets at Risk

All district assets (from Table H-4) are at risk from this hazard.

Severe Weather: High Winds and Tornadoes

Likelihood of Future Occurrence—Highly Likely

Vulnerability—High

Hazard Profile and Problem Description

High winds, as defined by the NWS glossary, are sustained wind speeds of 40 mph or greater lasting for 1 hour or longer, or winds of 58 mph or greater for any duration. High winds can cause significant property and crop damage, threaten public safety, and have adverse economic impacts from business closures and power loss. High winds are a primary factor in PSPS events.

Tornadoes are rotating columns of air marked by a funnel-shaped downward extension of a cumulonimbus cloud whirling at destructive speeds of up to 300 mph, usually accompanying a thunderstorm. Tornadoes form when cool, dry air sits on top of warm, moist air. Tornadoes are the most powerful storms that exist. Tornadoes, though rare, are another severe weather hazard that can affect areas of the Placer County Planning Area, primarily during the rainy season in the late fall, winter, and early spring.

Location and Extent

The entire District is subject to significant, non-tornadic (straight-line), winds. Each area of the County is at risk to high winds. Magnitude of winds is measured often in speed and damages. These events are often part of a heavy rain and storm event, but can occur outside of storms. The speed of onset of winds can be short, but accurate weather prediction mechanisms often let the public know of upcoming events. Duration of winds in California is often short, ranging from minutes to hours. The Beaufort scale is an empirical 12 category scale that relates wind speed to observed conditions at sea or on land. Its full name is the Beaufort Wind Force Scale. The Beaufort Scale was shown in Section 4.3.5 of the Base Plan.

Portions of the County are also located in a special wind hazard region, which is a result of foehn winds. A foehn wind is a type of dry down-slope wind that occurs in the lee (downwind side) of a mountain range. Winds of this type are called "snow-eaters" for their ability to make snow melt or sublimate rapidly. This snow-removing ability is caused not only by warmer temperatures, but also the low relative humidity of the air mass coming over the mountain(s). They are also associated with the rapid spread of wildfires, making some regions which experience these winds particularly fire prone.

Tornadoes, while rare, can occur at any location in the County and District. Prior to February 1, 2007, tornado intensity was measured by the Fujita (F) scale. This scale was revised and is now the Enhanced Fujita scale. Both scales are sets of wind estimates (not measurements) based on damage. The new scale (EF) provides more damage indicators (28) and associated degrees of damage, allowing for more detailed analysis and better correlation between damage and wind speed. It is also more precise because it considers the materials affected and the construction of structures damaged by a tornado. The F Scale and EF Scale are shown in Section 4.3.5 of the Base Plan.

Past Occurrences

There has been no federal or state disaster declarations in the County for winds and tornadoes. The District noted that since high winds is a regional phenomenon, events that affected the lower to middle elevations of the County also affected the District. Those past occurrences were shown in the Base Plan in Section 4.3.5. All PSPS events have caused damage to the power grid at different levels. Downed trees provide the biggest threat to the District.

Vulnerability to and Impacts from Severe Weather: Wind and Tornado

High winds are common occurrences in the District throughout the entire year. Straight line winds are primarily a public safety and economic concern. Windstorm can cause damage to structures and power lines which in turn can create hazardous conditions for people. Debris flying from high wind events can shatter windows in structures and vehicles and can harm people that are not adequately sheltered. High winds can impact critical facilities and infrastructure and can lead to power outages. Wind can also drive wildfire flames, spreading wildfires quickly. During periods of high winds and dry vegetation, wildfire risk increases. High winds that occur during periods of extreme heat can cause PSPS events to be declared in the County. More information on power shortage and failure can be found in the Severe Weather: Extreme Heat Section above, as well as in Section 4.3.2 of the Base Plan.

Impacts from high winds in the District will vary. Future losses from straight line winds include:

- Downed trees
- Power line impacts and economic losses from power outages
- Increased PSPS events
- Occasional building damage, primarily to roofs

Impacts specific to the District include blocked roadways causing an inability to access incidents or those that need assistance, as well as blocking the only way to get into or out of Foresthill. Downed trees cause significant damage to structures.

Assets at Risk

Stations 89, 90 and the Administration office are at risk from this hazard.

Tree Mortality

Likelihood of Future Occurrence—Highly Likely

Vulnerability—High

Hazard Profile and Problem Description

One of the many vulnerabilities of drought in Placer County is the increased risk of widespread tree mortality events that pose hazards to people, homes, and community infrastructure, create a regional economic burden to mitigate, and contribute to future fuel loads in forests surrounding communities. During extended drought, tree mortality is driven by a build-up in endemic bark beetle populations and exacerbated by latent populations of a suite of native insects and disease. Non-native forest pests (insects and/or pathogens) can also contribute to tree mortality events. Several areas within the District forests show signs of Pine Beetle and thus will become more vulnerable to wildfire.

Location and Extent

Onset of tree mortality events can be relatively fast; however conditions – such as high stand densities – that lead to tree mortality accumulate slowly over time. Duration of tree mortality is lengthy, as once the tree dies, it remains in place until removed by human activity, wildfire, or breakdown of the wood by nature. Many areas in Placer County have seen increases in tree mortality. The County has mapped these areas, and that map was shown in Section 4.3.18 of the Base Plan. Using a color legend, the map provided by CAL FIRE shows a scale of:

- Deep burgundy depicting areas with more than 40 dead trees per acre
- Red depicting 15 - 40 dead trees per acre
- Orange depicting 5 -15 dead trees per acre
- Yellow depicting 5 or less dead trees per acre

In the past decade, mortality has increased in the eastern portion of Placer County. During the 2012-2018 drought, the state of California Tree Mortality Task force designated multiple Tier 1 and Tier 2 High Hazard Zones where tree mortality posed an elevated risk to human health, properties, and resource values. A number of Placer County areas were designated during this event and the majority of Placer County watersheds were designated as Tier 2 high hazard zones because of the significant levels of tree mortality,

along with numerous Tier 1 High hazard “hot spots”. A map of these areas is shown in in Section 4.3.18 of the Base Plan.

The District has had a severe issue with tree mortality due to drought, infestation, and human caused issues.

Past Occurrences

There have been no state or federal disasters in the County related directly to tree mortality, though it has most likely contributed to the intensity of past wildfires in the County. Those events are shown in the Past Occurrences section of Wildfire below. In 2015, then-Governor Edmund G. Brown Jr. proclaimed a state of emergency due to the extreme hazard of the dead and dying trees. Following the proclamation, 10 counties were determined to be most affected, which included Placer County. Placer County proclaimed a local emergency due to tree mortality conditions on Dec. 8, 2015.

Vulnerability to and Impacts from Tree Mortality

Placer County is unique in that many residential and business areas of the community are in the wildland urban interface/intermix with the forest. Trees in these interface/intermix areas are particularly vulnerable to insect and/or drought driven mortality because of the additional stressors that urban environments impose on trees (i.e. soil compaction, altered hydrology, physical damage, heat islands etc.). This exacerbates the occurrence of tree mortality within the populated settings of the County.

Dead trees are a hazard to the general public and forest visitors, but the risk of injury, death, property damage or infrastructure damages varies depending how the hazard interacts with potential targets. Dead trees within the wildland urban intermix or wildland urban interface or urban areas therefore pose a greater risk to due to their proximity to residents, businesses, and road, power, and communication infrastructure.

Dead trees may fall or deteriorate in their entirety or in part – either mechanism has the potential for injury, death, or inflicting severe damage to targets. As the time since tree mortality increases, so does the deterioration of wood and the potential for tree failure.

Assets at Risk

All District assets (from Table H-4) are at risk from this hazard.

Wildfire

Likelihood of Future Occurrence–Highly Likely

Vulnerability– Extremely High

Hazard Profile and Problem Description

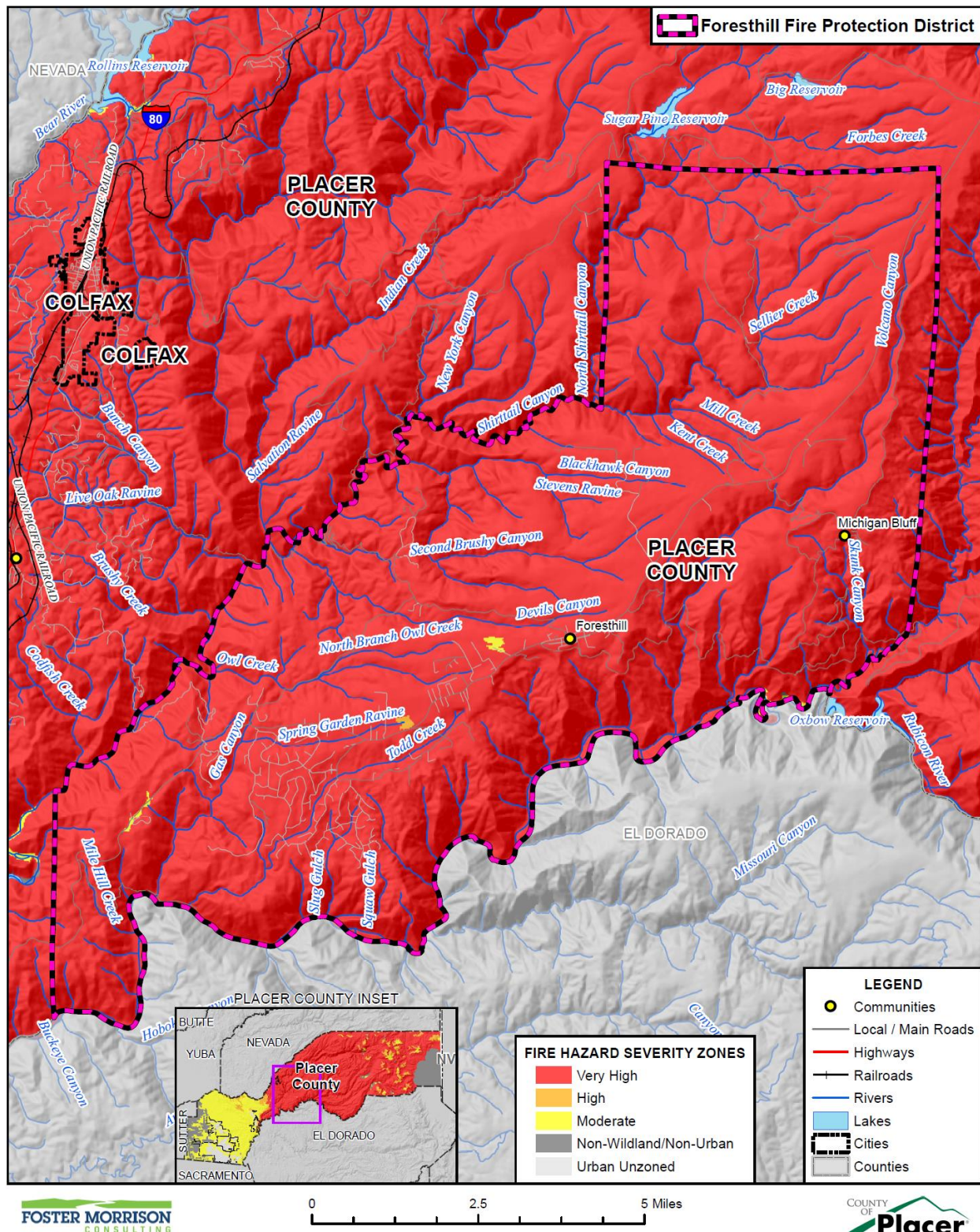
Wildland fire and the risk of a conflagration is an ongoing concern for the FFPD. Throughout California, communities are increasingly concerned about wildfire safety as increased development in the foothills and mountain areas and subsequent fire control practices have affected the natural cycle of the ecosystem. Wildland fires affect grass, forest, and brushlands, as well as any structures located within them. Where

there is human access to wildland areas the risk of fire increases due to a greater chance for human carelessness and historical fire management practices. Historically, the fire season extends from early spring through late fall of each year during the hotter, dryer months; however, in recent years, the risk of wildfire has become a year around concern. Fire conditions arise from a combination of high temperatures, low moisture content in the air and fuel, accumulation of vegetation, and high winds. While wildfire risk has predominantly been associated with more remote forested areas and wildland urban interface (WUI) areas, significant wildfires can also occur in more populated, urban areas.

Location and Extent

Wildfire can affect all areas of the District. CAL FIRE has estimated that the risk varies across the District and has created maps showing risk variance. Following the methodology described in Section 4.3.19 of the Base Plan, wildfire maps for the FFPD were created. Figure H-3 shows the CAL FIRE FHSZ in the District. As shown on the maps, fire hazard severity zones within the District fall within the Very High zone.

Figure H-3 FFPD – Fire Hazard Severity Zones



Wildfires tend to be measured in structure damages, injuries, and loss of life as well as on acres burned. Fires can have a quick speed of onset, especially during periods of drought or during hot dry summer months. Fires can burn for a short period of time, or may have durations lasting for a week or more.

Past Occurrences

There has been five state and six federal disaster declarations for Placer County from fire. These can be seen in Table H-9.

Table H-9 Placer County – State and Federal Disaster Declarations Summary 1950-2020

Disaster Type	State Declarations		Federal Declarations	
	Count	Years	Count	Years
Fire	5	1961, 1965, 1973, 1987, 2010	6	2002, 2004, 2008, 2009, 2014 (twice)

Source: Cal OES, FEMA

September 2006 – A wildland fire, started by a campfire on Ralston Ridge outside of Foresthill, grew to over 4,000 acres in size. The towns of Michigan Bluff, Foresthill, and Volcano were threatened. Infrastructure damage primarily involved damage to power lines

June 29 to July 18, 2016 – The Trailhead Fire was a wildfire burning in the Middle Fork American River canyon in both Placer County & El Dorado County. 5,646 acres were burned in and near Foresthill. Todd Valley and areas of Foresthill placed on evacuation orders. 2,600 + structures were threatened.

September 4 to 6, 2018 – The Sliger Fire was a wildfire burning in the Middle Fork American River canyon in both Placer County & El Dorado County. 104 acres were burned in and near Foresthill. Todd Valley placed on evacuation orders. 2,000 + structures were threatened.

Vulnerability to and Impacts from Wildfire

Risk and vulnerability to the Placer County Planning Area and the District from wildfire is of significant concern, with some areas of the Planning Area being at greater risk than others as described further in this section. High fuel loads in the Planning Area, combined with a large built environment and population, create the potential for both natural and human-caused fires that can result in loss of life and property. These factors, combined with natural weather conditions common to the area, including periods of drought, high temperatures, low relative humidity, and periodic winds, can result in frequent and potentially catastrophic fires. During the nearly year around fire season, the dry vegetation and hot and sometimes windy weather results in an increase in the number of ignitions. Any fire, once ignited, has the potential to quickly become a large, out-of-control fire. As development continues throughout the County and the District, especially in these interface areas, the risk and vulnerability to wildfires will likely increase.

Potential impacts from wildfire include loss of life and injuries; damage to structures and other improvements, natural and cultural resources, croplands, and loss of recreational opportunities. Wildfires can cause short-term and long-term disruption to the District. Fires can have devastating effects on watersheds through loss of vegetation and soil erosion, which may impact the District by changing runoff

patterns, increasing sedimentation, reducing natural and reservoir water storage capacity, and degrading water quality. Fires can also affect air quality in the District; smoke and air pollution from wildfires can be a severe health hazard.

Although the physical damages and casualties arising from large fires may be severe, it is important to recognize that they also cause significant economic impacts by resulting in a loss of function of buildings and infrastructure. Economic impacts of loss of transportation and utility services may include traffic delays/detours from road and bridge closures and loss of electric power, potable water, and wastewater services. Schools and businesses can be forced to close for extended periods of time. Recently, the threat of wildfire, combined with the potential for high winds, heat, and low humidity, has caused PG&E to initiate PSPSs which can also significantly impact a community through loss of services, business closures, and other impacts associated with loss of power for an extended period. More information on power shortage and failure can be found in the Severe Weather: Extreme Heat Section above, as well as in Section 4.3.2 of the Base Plan. In addition, catastrophic wildfire can create favorable conditions for other hazards such as flooding, landslides, and erosion during the rainy season.

The rural nature within the District boundaries makes the area particularly susceptible to fire due to the heavily forested, cross-compartmented nature of the terrain. The abundance of natural fuels, coupled with extreme low humidity common in the area during fires season, creates potentially volatile situations for both residents and responders.

Assets at Risk

All of the District's structures from Table H-4 are at risk. One study shows us losing all of our assets from fire under the right conditions.

H.6 Capability Assessment

Capabilities are the programs and policies currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. This capabilities assessment is divided into five sections: regulatory mitigation capabilities, administrative and technical mitigation capabilities, fiscal mitigation capabilities, mitigation education, outreach, and partnerships, and other mitigation efforts.

H.6.1. Regulatory Mitigation Capabilities

Table H-10 lists regulatory mitigation capabilities, including planning and land management tools, typically used by local jurisdictions to implement hazard mitigation activities and indicates those that are in place in the FFPD.

Table H-10 FFPD Regulatory Mitigation Capabilities

Plans	Y/N Year	Does the plan/program address hazards?
		Does the plan identify projects to include in the mitigation strategy? Can the plan be used to implement mitigation actions?

Comprehensive/Master Plan/General Plan	N	
Capital Improvements Plan	Y	
Economic Development Plan	N	
Local Emergency Operations Plan	Y	
Continuity of Operations Plan	N	
Transportation Plan	N	
Stormwater Management Plan/Program	N	
Engineering Studies for Streams	N	
Community Wildfire Protection Plan	N	
Other special plans (e.g., brownfields redevelopment, disaster recovery, coastal zone management, climate change adaptation)	N	
Building Code, Permitting, and Inspections	Y/N	Are codes adequately enforced?
Building Code	N	Version/Year: CFC 2019
Building Code Effectiveness Grading Schedule (BCEGS) Score	N	Score:
Fire department ISO rating:	Y	Rating: 3/3Y
Site plan review requirements	N	
		Is the ordinance an effective measure for reducing hazard impacts?
Land Use Planning and Ordinances	Y/N	Is the ordinance adequately administered and enforced?
Zoning ordinance	N	
Subdivision ordinance	N	
Floodplain ordinance	N	
Natural hazard specific ordinance (stormwater, steep slope, wildfire)	N	
Flood insurance rate maps	N	
Elevation Certificates	N	
Acquisition of land for open space and public recreation uses	N	
Erosion or sediment control program	N	
Other	N	
How can these capabilities be expanded and improved to reduce risk?		
Vegetation Mitigation Plan for the District to enhance the Placer County Plan.		

Source: FFPD

As indicated above, the District, in conjunction with the County, has several programs, plans, policies, and codes and ordinances that guide hazard mitigation. Some of these are described in more detail below.

Codes and Ordinances

FFPD, through Placer County has adopted the 2007 California Fire Code. FFPD also defers to Public Resource Codes 4290 (Fire Safe Access) and 4291 (Defensible Space). The Fire Marshal reviews pre-development plans for ingress and egress, fire flow requirements, fire hydrant placement, and placement of shaded fuel breaks. Plan reviews for single family residence in and out of hydrant areas are done as well to ensure proper access and water supply for fire suppression.

Foresthill/Iowa Hill, Community Wildfire Protection Plan, 2011

The Foresthill/Iowa Hill CWPP summarizes wildfire dangers and issues within the Foresthill/Iowa Hill areas. The CWPP also catalogs community wildfire protection needs and identifies corrective action and community projects that will mitigate some of the problems. Communities served by the CWPP with prioritized projects include Michigan Bluff, Baker Ranch, Foresthill, Todd Valley, Yankee Jims, Shirttail, Sugar Pin Reservoir, Hidden Treasure, Iowa Hill, Kings Hill, Big Dipper, and Roach Hill.

Foresthill/Iowa Hill Risk Assessment Plan, 2009

The Foresthill/Iowa Hill Risk Assessment and Mitigation Strategies (RAMS) process helps provide consistent out-year planning for fire mitigation activities, prevention education, and fuels treatment/biomass programs. RAMS prioritizes fire management units and communities by risk and hazard and develops a strategic out-year budget and program of work for the Foresthill/Iowa Hill Fire Safe Council. This RAMS Plan is an amendment to the Placer County Fire Plan/Placer County CWPP, and represents information that was developed collaboratively by members of the Foresthill/Iowa Hill Fire Safe Council and cooperating state and federal agencies.

Capital Improvement Plan, 2018

The Capital Improvement Plan for the District identifies and budgets projects for new public facilities that will be needed to serve the FFPD projected development and increase in service population through 2030.

Foresthill Divide, Iowa Hill Divide Emergency Plan, 2009

The Emergency Plan for the area provides specific planning information, direction, and coordination guidance on a functional as well as an organizational basis for first responding and contributing agencies facing emergencies in the Foresthill and Iowa Hill areas.

H.6.2. Administrative/Technical Mitigation Capabilities

The District is staffed by a combination of paid and volunteer firefighters, EMTs, and paramedics. The FFPD was created in April of 1946, after over 15 years of service by the Foresthill Volunteer Fire Department. The FFPD presently employs a staff of 18, including a Fire Chief, 2 Assistant Fire Chiefs, 3 Station Captains, three Engineers, an Office Manager, an administrative assistant, EMTs, firefighters, and paramedics, and is run by a five person Board of Directors.

Three fire stations house the fire engines, brush units, rescue units, a water tender, and three ambulances. Fire Station 88 is located on Gold Street, Station 89 on Foresthill Road near the Placer County corporate yard, and Station 90 is at the intersection of Foresthill Road and Happy Pines Road. The District office is located at 24320 Main Street at the old Safety Club building. Table H-11 identifies the personnel responsible for activities related to mitigation and loss prevention in the District.

Table H-11 FFPD's Administrative and Technical Mitigation Capabilities

Administration	Y/N	Describe capability Is coordination effective?
Planning Commission	Y	In coordination with Placer County
Mitigation Planning Committee	N	
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems)	N	
Mutual aid agreements	Y	
Other		
Staff	Y/N FT/PT	Is staffing adequate to enforce regulations? Is staff trained on hazards and mitigation? Is coordination between agencies and staff effective?
Chief Building Official	Y	In coordination with Placer County
Floodplain Administrator	N	
Emergency Manager	Y	In coordination with Placer County
Community Planner	N	
Civil Engineer	Y	In coordination with Placer County
GIS Coordinator	Y	In coordination with Placer County
Other		
Technical		
Warning systems/services (Reverse 911, outdoor warning signals)	Y	In coordination with Placer County
Hazard data and information	Y	
Grant writing	N	
Hazus analysis	N	
Other		
How can these capabilities be expanded and improved to reduce risk?		
Low power AM (1020 AM) Emergency Alert Radio system. To enhance emergency notification of area residents and visitors of local events and emergency notification of evacuations or shelter in place directions/information. Working with the Placer County Sheriff's Department.		

Source: FFPD

H.6.3. Fiscal Mitigation Capabilities

Table H-12 identifies financial tools or resources that the District could potentially use to help fund mitigation activities.

Table H-12 FFPD's Fiscal Mitigation Capabilities

Funding Resource	Access/ Eligibility (Y/N)	Has the funding resource been used in past and for what type of activities? Could the resource be used to fund future mitigation actions?
Capital improvements project funding	N	
Authority to levy taxes for specific purposes	N	
Fees for water, sewer, gas, or electric services	N	
Impact fees for new development	Y	Used for capital expenses
Storm water utility fee	N	
Incur debt through general obligation bonds and/or special tax bonds	Y	
Incur debt through private activities	N	
Community Development Block Grant	N	
Other federal funding programs	N	
State funding programs	N	
Other	N	
How can these capabilities be expanded and improved to reduce risk?		
Impact fees to fund Fire District Capital Improvements (i.e. apparatus purchase).		

Source: FFPD

H.6.4. Mitigation Education, Outreach, and Partnerships

Table H-13 identifies education and outreach programs and methods already in place that could be/or are used to implement mitigation activities and communicate hazard-related information.

Table H-13 FFPD's Mitigation Education, Outreach, and Partnerships

Program/Organization	Yes/No	Describe program/organization and how relates to disaster resilience and mitigation. Could the program/organization help implement future mitigation activities?
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	N	
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	N	
Natural disaster or safety related school programs	Y	School programs
StormReady certification	N	
Firewise Communities certification	Y	
Public-private partnership initiatives addressing disaster- related issues	N	
Other	N	

Program/Organization	Yes/No	Describe program/organization and how relates to disaster resilience and mitigation. Could the program/organization help implement future mitigation activities?
How can these capabilities be expanded and improved to reduce risk?		
Develop a school fire safe program and a more robust delivery system. Develop a High School Fire Cadet Program (as funds are available). Continued growth of our Firewise Communities working with the Foresthill/Iowa Hill Fire Safe Council. Continued to develop Firewise Communities Developed a Defensible Space Demonstration area for the public to tour 7/24/365 Developed a Ready, Set, Go Program with District specific printed materials		

Source: FFPD

FFPD has many mutual aid agreements and partnerships in place to ensure the safety of the people and property within District Boundaries. Partnerships and/or mutual aid agreements are in place with the following entities:

- CAL FIRE
- USFS
- BLM
- Placer County Sheriff's Office
- Placer County OES
- California Highway Patrol (CHP)
- American Medical Response (AMR)
- American Red Cross
- Placer County Water Agency

The District works closely with the Foresthill/Iowa Hill fires Safe Council, CAL FIRE, USFS, BLM, and private landowners.

H.6.5. Other Mitigation Efforts

The District has many other completed or ongoing mitigation efforts that include the following:

- Defensible space inspections
- Continual fire safety education
- In process of becoming a Firewise Community
- Firewise workshop
- Firesafe Council
- Business Inspections
- Fire Education in Schools
- Shaded fuel breaks within Foresthill/Iowa Hill areas
- Fuel Reduction Projects
- Fuels Reduction: Chipper Program

H.7 Mitigation Strategy

H.7.1. Mitigation Goals and Objectives

The FFPD adopts the hazard mitigation goals and objectives developed by the HMPC and described in Chapter 5 Mitigation Strategy.

H.7.2. Mitigation Actions

The planning team for the FFPD identified and prioritized the following mitigation actions based on the risk assessment. Background information and information on how each action will be implemented and administered, such as ideas for implementation, responsible office, potential funding, estimated cost, and timeline are also included. The following hazards were considered a priority for purposes of mitigation action planning:

- Climate Change
- Drought & Water Shortage
- Floods: Localized Stormwater
- Pandemic
- Severe Weather: Extreme Heat
- Severe Weather: Freeze and Snow
- Severe Weather: High Winds and Tornadoes
- Tree Mortality
- Wildfire

It should be noted that many of the projects submitted by each jurisdiction in Table 5-4 in the Base Plan benefit all jurisdictions whether or not they are the lead agency. Further, many of these mitigation efforts are collaborative efforts among multiple local, state, and federal agencies. In addition, the countywide public outreach action, as well as many of the emergency services actions, apply to all hazards regardless of hazard priority. Collectively, this multi-jurisdictional mitigation strategy includes only those actions and projects which reflect the actual priorities and capacity of each jurisdiction to implement over the next 5-years covered by this plan. It should further be noted, that although a jurisdiction may not have specific projects identified for each priority hazard for the five year coverage of this planning process, each jurisdiction has focused on identifying those projects which are realistic and reasonable for them to implement and would like to preserve their hazard priorities should future projects be identified where the implementing jurisdiction has the future capacity to implement.

Multi-Hazard Actions

Action 1. Chipper Program for Foresthill FPD

Hazards Addressed: Multi-Hazard (Climate Change, Drought & Water Shortage, Floods: Localized Stormwater, Pandemic, Severe Weather: Extreme Heat, Severe Weather: Freeze and Snow, Severe Weather: High Winds and Tornadoes, Tree Mortality, and Wildfire)

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background: With the limited number of chippers and crews a back log of debris removal is accumulating. This receptive fuel bed must be reduced.

Project Description: Increase to number of chippers in the County by providing Foresthill FPD with a chipper, a tow vehicle and a four-person crew and a supervisor. The crew could also double as a hand crew to assist in the suppression of a wildland fire.

Other Alternatives: County to increase the number of chippers and numbers of crews to address the hazard. There is a lot of potential and the mitigation is slower than the desired goal for defensible space and fire severity.

Existing Planning Mechanism(s) through which Action Will Be Implemented: Not sure yet. Big goal/dream with a small agency.

Responsible Agency/ Department/Partners: Foresthill FPD, CalFire, BoR, BLM, USFS, State Parks

Cost Estimate: \$350,000 - \$400,000 (with startup costs).

Benefits (Losses Avoided): Saving lives and property. For the cost of saving one or two homes in the District, we could provide a valuable asset to the reduction of hazards from wildland fires.

Potential Funding: Not researched yet

Timeline: One year

Project Priority (H, M, L): High